LISTING OF THE CLAIMS

This listing of claims represents the current status of the claims in the above-identified application.

Listing of Claims:

1. (Withdrawn) A microarray comprising a plurality of subarrays wherein at least one subarray contains a set of nucleic acid probes of interest, and wherein at least one subarray is surrounded by an interstitial region; wherein the interstitial region comprises at least one visible or machine readable alignment marked conformed by photopatterning a group-bearing phosphoramidite onto the interstitial region of a microarray.

2. (Withdrawn) The microarray of Claim 1 wherein the alignment mark comprises a hapten and an illuminating compound.

3. (Withdrawn) The microarray of Claim 2 wherein the hapten is a biotin or DNP.

4. (Withdrawn) The microarray of Claim 2 wherein the illuminating compound is streptavidin-conjugated to a reporter molecule.

5. (Withdrawn) The microarray of Claim 4 wherein the reporter molecule is selected from the group consisting of a catalytic antibody, colloidal metal suspension, dye, fluorophore-labeled microparticles, alkaline phosphotase, and horseradish peroxidase.

6. (Withdrawn) The microarray of Claim 1 wherein the alignment mark is flexibly deployable within the array and can be placed with great precision immediately adjacent to and surrounding the subarray.

7. (Previously presented) A method for making a microarray having a plurality of subarrays surrounded by a visible or machine readable alignment mark in an interstitial region of the microarray, the method comprising the steps of:

a) selecting at least one probe set comprising probes of interest;

b) building the probe sets on a microarray to provide a plurality of subarrays, wherein the probe sets are built with a MAS™ instrument; and

c) depositing a hapten and an illuminating compound around the plurality of subarrays to form the alignment mark on the interstitial region of the microarray, wherein the alignment mark is formed by the same MAS™ instrument used to build the probe sets of step b).

8. (Previously presented) The method of Claim 7 wherein the hapten comprises biotin or dinitrophenol (DNP).

9. (Original) The method of Claim 7 wherein the illuminating compound is streptavidin conjugated to a reporter molecule.

10. (Original) The method of Claim 9 wherein the streptavidin is bound to a reporter molecule selected from the group consisting of a catalytic antibody, colloidal metal suspension, dye, fluorophore-labeled microparticles, alkaline phosphotase, and horseradish peroxidase.

11. (Previously presented) The method of Claim 7 wherein the hapten is deposited by photopatterning a group-bearing phosphoramidite onto the interstitial region of the microarray, and wherein the hapten is deposited following photodeprotection by mirrors of the MAS™ instrument.

12. (Previously presented) The method of Claim 11 wherein the phosphoramidite is 2-(2 nitro phenyl) propoxy carbonyl (NPPOC).

13. (Previously presented) The method of Claim 7 wherein the alignment mark is flexibly deployable within the array and can be precisely placed immediately adjacent to and surrounding the subarray.

14. (Withdrawn) A method for aligning microarrays, the method comprising the steps of:

a) providing the microarray of Claim 1;

b) exposing the microarray to an optical detection device to detect the visible or machine readable alignment mark on the interstitial region surrounding the subarrays; and

c) aligning the microarray according to the location of the visible or machine readable alignment mark so as to accurately deposit samples into the subarrays of a microarray.

15. (Withdrawn) The method of Claim 14, wherein the optical detection device is either a scanning laser diode or an image capture and analysis device.

16. (Withdrawn) The method of Claim 14, wherein the samples are deposited into the subarrays using robotics.